Note: Data from the trial burn must be signed and certified by a principal executive officer of at least the level of vice president.

The present lack of cyanide incineration test data makes the method uncertain as an acceptable procedure for the disposal of cyanide wastes. Certain technical aspects of the burning may pose significant risk of injury to human health and the environment. Our concerns are as follows:

1. The cyanides such as those found at Pratt and Whitney generally have boiling points in the range of 2700°F which exceed the incineration temperature range of 1832°F to 2000°F (Sodium Cyanide [NaCN] has a boiling point of 2725°F). Vaporization is an important characteristic when considering the incineration of any material.

2. Even if the cyanide becomes airborne in the incineration zone due to atomization through the injection nozzles, destruction or thermal oxidation may be very difficult to achieve. The thermal oxidation temperature of a chemical substance is usually much higher than its vaporization temperature.

3. It is possible that most of the cyanide fed into the incinerator would be trapped in the incinerator scrubber liquid without undergoing oxidation. Under acidic conditions (i.e., pH of < 7), the cyanides can be readily converted into hydrogen cyanide gas. Although Pratt and Whitney plans to maintain a scrubber pH range of 7.0 to 8.5, any malfunction in the pH monitoring system has the potential to create this catastrophic transformation.

One of the primary concerns Pratt and Whitney must address in the trial burn is the fate of the cyanide waste. Monitoring should be conducted over the range of operating conditions to develop a cyanide mass balance for the incinerator and emissions-control units. The test results should include:

a. The destruction efficiency for the cyanides;

b. The amount of cyanide trapped in the scrubber solution; and

c. The amount of cyanide in the stack emissions.

If the scrubber solution is determined to contain cyanide, detailed waste handling and disposal procedures must be submitted as part of this application.